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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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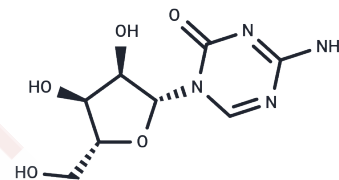
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5-Azacytidine

Chemical Properties

CAS No. :	320-67-2
Formula:	C ₈ H ₁₂ N ₄ O ₅
Molecular Weight:	244.2
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	5-Azacytidine (Ladakamycin) is a cytidine nucleoside analog, a DNA methylation inhibitor with specificity. 5-Azacytidine regulates gene expression by decreasing the level of DNA methylation. 5-Azacytidine induces autophagy and has antitumor activity.
Targets(IC50)	Nucleoside Antimetabolite/Analog, DNA Methyltransferase, Antibacterial, Antibiotic, Autophagy
In vitro	In leukemic BDF1 mice bearing L1210 ascitic tumor cells, intraperitoneal administration of Azacitidine (3 mg/kg) inhibits polynucleotide synthesis and prolongs survival time.
In vivo	In both regular eukaryotic cells and cancer cells, Azacitidine activates nucleoside triphosphates and inhibits the synthesis of DNA, RNA, and proteins, ultimately leading to cell death. Azacitidine induces cell differentiation and myotube formation in C3H10T1/2 cells. Additionally, Azacitidine suppresses cell growth in L1210 cells (IC ₅₀ =0.019 µg/mL).
Kinase Assay	A crude cell-free extract is isolated from L1210 cells in culture by suspension of the cells in a given volume of 0.05mol/L Tris-HCl buffer, pH 7.4, and sonic extraction with a Biosonik at 70% maximal output for 30 sec. The supernatant is collected after centrifugation at 105,000 × g for 60 min (4°C) in a Model L Spinco ultracentrifuge. The final protein concentration of the cell-free extracts is approximately 3 mg/mL. The extracts are used as the source of enzymes. Ribonucleotide reductase activity is measured. A unit of enzyme is defined as the amount that catalyzed dCMP synthesis at a rate of 1 µmole/hr. The assay systems for the measurement of pyrimidine nucleoside (CR) and deoxynucleoside (TdR, CdR) kinases are essentially those described by Chu and Fischer. However, reactions are terminated by heating for 2 min in a boiling water bath, and the phosphorylated derivatives are isolated according to the method of Bach. Fifty-µl aliquots are applied to 1-inch discs of diethylaminoethyl paper, which are then placed in counting vials and eluted with 0.5 mL of 0.5 mol/L PCA. After 1 hr, 12 mL of Diotol are added, and the radioactivity is determined.
Cell Research	5 mL of L1210 cells (5 × 10 ³ cells/mL) are incubated with Azacitidine at 37 °C for 3 days. Cell number is determined twice a day for 3 days by means of a Model A Coulter counter. (Only for Reference)

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 100 mg/mL (409.5 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble) 5% DMSO+40% PEG300+5% Tween 80+50% Saline: 1 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.095 mL	20.475 mL	40.950 mL
5 mM	0.819 mL	4.095 mL	8.190 mL
10 mM	0.4095 mL	2.0475 mL	4.095 mL
50 mM	0.0819 mL	0.4095 mL	0.819 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Wang W, Ren S, Lu Y, et al. Inhibition of Syk promotes chemical reprogramming of fibroblasts via metabolic rewiring and H2S production. The EMBO Journal. 2021 Jun 1;40(11):e106771. doi: 10.15252/embj.2020106771.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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